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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HAQ, MOHAMMAD AAMIR

ART UNIT	PAPER NUMBER
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2642

DATE MAILED: 01/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/918,961	Applicant(s) VALDIVIA ET AL.	
	Examiner Aamir Haq	Art Unit 2642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to applicant's amendment filed on 9/12/2005. Claims 1 – 26 are now pending on the present application.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 26 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,904,265 (Valdivia et al.) hereinafter Valdivia.

As to claims 1, 4, 5, 9, 10, 15, 16 and 21, Valdivia discloses a satellite communication network comprising a least one satellite (105 in fig. 1) comprising:

- a plurality of antennas for receiving transmissions from geographically distinct cells. Note that the satellite in fig. 1 inherently includes antennas for receiving incoming signals. Furthermore, the figure depicts the satellite communicating with multiple satellite terminals in different locations which the examiner interprets as reading on the claimed geographically distinct cells with respective frequency ranges.

- Demodulators (105b in fig. 1, col. 7 line 47 - 55)
- payload processor (105e in fig. 1)
- switch matrix (105c in fig. 1, col. 8 line 12 and 40)

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- network interface adapted to receive requests (col. 2 line 8 – 11, col. 3 line 53 – 65, 625 in fig. 6)
- processor adapted to determine whether said requests can be fulfilled based on of constraints and reconfiguring resources to fulfill the requests (col. 1 line 64 – 67, col. 2 line 16, col. 3 line 1 – 17, col. 5line 4 – 19)

As to claims 2, 3, 7, 8, 13, 14, 19, 20, 22 and 23, Valdivia discloses the interface communicating via a computer over a local area network. Specifically col. 25 line 14 mentions communication through the Internet, which would include a web browser.

As to claims 6 and 24, Valdivia discloses demodulators may be assigned to particular cells, therefore implying multiple cells. Each would communicate at a particular frequency range. Moreover, Vadivia discloses a cell can be assigned 0 to 8 demodulators (col. 7 line 47 – 55). The switch matrix has been discussed above.

As to claims 11 and 17, see col. 5 lines 44 – 53, col. 8 line 23 – 37 and 56 – 67, col. 9 line 12 – 16 and 26 - 43.

As to claims 12 and 18, Valdivia has been discussed above. In addition see col. 5 line 9 – 15 for status of satellite resources and col. 2 line 6 - 25 for the receiving information at the network interface.

As to claim 25, the use of the Ka band would be inherent since the Ka band is used primarily in satellites in the high microwave / millimeter range.

As to claim 26, see the rationale for the rejections of claims 1, 5, and 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,272,341 (Threadgill et al.) in view of US 5,715,297 (Wiedman).

As to claim 1, Threadgill et al. discloses a system for provisioning satellite resources in a satellite communications network (or network engineering /systems engineering (NE/SE) system)(See Abstract) having at least one satellite (See, for example, Fig. 9a), said satellite comprising a payload processor for configuring said satellite resources (Examiner notes that on a communication satellite, the payload is the communication subsystem, which carries out the communications mission (receiving and transmitting information). See, for example, the functions of transmit and reception performed by satellite, Col. 1, lines 42-45 and Col. 2, lines 36-44), said resources comprising a plurality of channels (as read on “frequencies” or “frequency spectrum”) for transmitting information to or from said satellite (or “transmit and receive signals)(See Col. 1, lines 42-44), said system comprising a network interface adapted to receive requests for satellite resources (See, for example, Col. 9, lines 20-26), a satellite resource allocation plan, comprising information related to the satellite resource configuration over time (as read on “...expand the mobile satellite system capacity for

increases in traffic demand”)(See Col. 9, lines 26-32), and a request processor adapted to determine whether said requests can be fulfilled based on a plurality of system constraints including the satellite resource allocation plan (as read on “comparing loads with capability and availability of space...”)(See Col. 9, lines 38-45), to send commands to said payload processor in order to configure said satellite resources to fill said request (See Col. 9, lines 45-57), and to update said satellite resource allocation plan based on requests which can be fulfilled (may be read again on “...expand the mobile satellite system capacity for increases in traffic demand”, it is inherent that the system will be configured only to its maximum available capacity).(See also, functions performed by SOC. Col. 3, lines 12-20).

Threadgill does not disclose expressly that the NE/SE capabilities and processing intelligence is located in the satellite.

However, Wiedman teaches that processing capabilities, operations and functionalities that occur at a ground terminal can be switched to occur within a satellite system and vice versa. Wiedman discloses a wireless telephone system in which communication capabilities that occur at a ground terminal are also located within a satellite. Management of these processing capabilities can be switched between the ground terminal and satellite depending on the scenario (col. 1 line 16 – 20, col. 2 line 17 – 20, col. 3 line 40 – col. 4 line 18, col. 6 line 1 – 17). Therefore, a processing capability that is handled through a ground terminal can just as effectively be handled within a satellite and can be transparent to the end user. Often times this is merely a design choice since in satellite communications it is well known in the art that the weight

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of a satellite is a key consideration. Functions that can be administered from a ground terminal are done so to reduce the weight of the satellite.

Wiedmain and Threadgill are analogous art because they are from the same field of endeavor, namely satellite communications. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the processing intelligence done by the NE/SE, NMS and NOC withing the satellite in view of the teachings of Wiedman.

The motivation for doing so would have been to be able to provide service that a ground terminal is unable to provide from the satellite. Satellites provide a greater service area range than ground terminals. A user that requires increased satellite capacity may be in a remote location that cannot access a ground station, but can access satellite communication. In this situation having the processing intelligence included within the satellite would be beneficial. Therefore in view of the teachings of Wiedman it would have been obvious to include the processing functions within the satellite to obtain the invention as specified in claim 1.

Claim 9 is rejected for the same reasons as claim 1, regarding the limitation reciting "comprising a plurality of antennas for receiving transmissions from geographically distinct cells" read on Col. 9, lines 24-25. As per the "plurality of demodulators for demodulating transmission in particular frequency ranges", read for example on demodulators provided within transmission/reception systems of antennas serving different geographical locations. The "switch matrix" limitation is well-known

matter in the art, in order to support this asseveration, Examiner provides Ishi (US 4,800,561).

Claim 15 is rejected for the same reasons as claims 1 and 9, as per the "plurality of spot beams antennas...", see for example, Fig. 42 of Threadgill et al.

Claim 21 is rejected for the same reasons as claim 1. Examiner takes Official Notice that in Network Operation Centers (or NOC) the level of security of users need to be verified in order to not only avoid unauthorized users from accessing the system; but to avoid giving access to all personnel to sensitive processes such as network provisioning and troubleshooting.

Claims 4-6 are rejected for the same reasons as claim 9.

The limitations of claims 10-12, 16-18 and 26 read, for example, on Threadgill's et al. disclosure of Col. 9, lines 19-26 (as read on "producing frequency plans for different geographical regions and defining circuit pools for different group of users of the METs").

As to claim 24, Threadgill et al. discloses satellite resources comprise channels within frequency bands (See, "L-Band Frequency Allocation", Col. 1, line 62 through Col. 30, line 47).

Regarding claims 3, 8, 14, 20 and 23, Threadgill et al. discloses that the satellite network system interfaces with the satellites via the NOC (See Col. 3, lines 21-24) and that the NOC manages and controls the resources of the satellites by communicating via a LAN/WAN based satellite Internetwork (or Internet) and dial-up lines.

As to claim 25, Applicant recites the limitation "frequency bands are within the Ka Band", Threadgill's system uses the L and Ku frequency bands. L-Band communications occur within 1-2 GHz, Ku-Band communications occurs between 12-18 GHz and Ka-Band between 27-40 GHz. It is well known that most radiocommunications occur at higher frequencies due to congestion in the lower frequency bands, thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Ka-band as opposed to any other low frequency bands.

Regarding claims 2, 7, 13, 19 and 22, Threadgill et al. teaches that the Network includes the Internet (or Internetwork); thus it would have been obvious to one of ordinary skill in the art to use a web browser in order to access the Internet as it is well-known in the art that a web browser is a software package that enables a user to display and interact with documents hosted by web servers.

Response to Arguments

4. Applicant's arguments with respect to claims 1 - 26 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2001/0026537 (Massey) discloses a satellite using virtual onboard switching. US 6,377,561 (Black et al.) discloses a data communication satellite system and method of carrying multi-media traffic. US 2002/0147011 (Kay) discloses a

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broadband satellite communications system. US 5,594,780 (Wiedman et al.) discloses a satellite communication system coupled to a terrestrial communication network. US 5,655,005 (Wiedman et al.) discloses a worldwide communications system using satellites. US 5,903,837 (Wiedamn) discloses a wireless telephone/satellite roaming method. US 5,915,217 (Wiedman et al.) discloses a worldwide telecommunications system using satellites. US 5,918,157 and 6,067,442 (Wiedman et al.) discloses a satellite communciaiton system with terrestrial gateways. US 6,377,561 (Black et al.) discloses a data communication satellite system and method of carrying multi-media traffic. US 6,463,279 (Sherman et al.) discloses channel frequency allocation for multiple satellite communication network. US 6,628,921 (Vaddiparty et al.) discloses a return link channel loading of multiple satellites with multiple spread spectrum user terminals.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aamir Haq whose telephone number is 571-272-5511. The examiner can normally be reached on Mon thru Fri 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad Matar can be reached on 571-272-7488. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.H.
January 11, 2006


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